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EXAMINER	
AUGHENBAUGH, WALTER	

ART UNIT	PAPER NUMBER
1794	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/580,194	KUHMANN ET AL.	
	Examiner	Art Unit	
	WALTER B. AUGHENBAUGH	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,8 and 11-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8 and 11-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Acknowledgement of Applicant's Amendments

1. Applicant's amendments in claims 1 and 11 in the Amendment filed June 22, 2009 have been received and considered by Examiner.

WITHDRAWN REJECTION

2. The 35 U.S.C. 112, second paragraph, rejection of claim 11 made of record in the previous Office Action mailed March 20, 2009 has been withdrawn due to Applicant's amendment in claim 11 in the Amendment filed June 22, 2009.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roeber et al. (USPN 5,858,492) in view of Kawase et al. (USPN 4,737,536) and in further view of Ebner et al. (USPN 6,433,087).

Roeber et al. teach a multilayered tube for conveying fluids such as cooling fluids (col. 7, lines 21-24) comprising an outer layer comprising a polyamide molding composition (layer II) and an inner layer consisting of a polypropylene molding composition (layer IV) (col. 1, line 66-col. 2, line 13 and Arrangements 4-8 in col. 6). Roeber et al. teach that PA-6,12 is a suitable material for the polyamide (col. 2, lines 30-30-42). Note the recitations "an outer layer" and "an

inner layer" do not require that the outer layer is the outermost layer and that the inner layer is the innermost layer. Layer II of Roeber et al. corresponds to "an outer layer" when it is an outer layer of the tube (in the outer half of the multilayer composite) and Layer IV of Roeber et al. corresponds to "an inner layer" when it is an inner layer of the tube (in the inner half of the multilayer composite). Roeber et al. teach that a suitable polypropylene for the polypropylene molding composition is a propene-ethene block copolymer (col. 4, line 61-col. 5, line 6). Roeber et al. teach that the polypropylene molding composition may comprise customary additives such as stabilizers, which one of ordinary skill in the art would have recognized refers to heat stabilizers (col. 5, lines 34-40). Since the propene-ethene block copolymer is suitable as the sole polymeric component of the polypropylene layer (col. 4, line 61-col. 5, line 6), it is present in the layer in an amount of greater than 50% by weight. A goal of Roeber et al. is to improve the impact toughness of the tube (see col. 1, lines 18-22, col. 4, lines 38-44 and col. 5, lines 4-6).

Roeber et al. fail to explicitly teach that the propene-ethene block copolymer includes 0.5 to 20 % by weight of ethene in copolymerized form, that the stabilizer is present in an amount of at least 0.02% by weight of the polypropylene layer, and that the inner layer comprises at least 0.01% by weight of a metal deactivator.

Kawase et al., however, disclose a polymeric composition for automobile parts such as bumpers comprising a propene-ethene block copolymer that comprises from 1 to 10 % by weight ethene in copolymerized form, and that the amount of ethene in copolymerized form must be from 1 to 10 % by weight in order to achieve a sufficiently high impact resistance and also a sufficiently high scratch resistance and moldability (col. 3, lines 39-48). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a

propene-ethene block copolymer that comprises from 1 to 10 % by weight ethene in copolymerized form as the propene-ethene block copolymer of Roeber et al. in order to form a tube having a balance of suitable mechanical properties such as impact resistance and moldability.

Ebner et al., however, disclose a polypropylene tube that comprises a heat stabilizer and a metal deactivator, which are both characterized by Ebner et al. as "the usual additives" for polypropylene molding compositions of polypropylene tubes (col. 4, lines 15-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included a metal deactivator in the polypropylene composition of the line taught by Roeber et al. and Kawase et al. since metal deactivator is a typical additive to polypropylene molding compositions of polypropylene tubes as taught by Ebner et al.

In regard to the claimed amount of stabilizer and metal deactivator, Roeber et al. teach that the amount of the specified agents added is to be such that the desired properties are not seriously affected (col. 5, lines 38-40). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have varied the amount of stabilizer and metal deactivator of the line taught by Roeber et al., Kawase et al. and Ebner et al. in order to achieve the desired degree of heat stability and metal deactivation depending on the particular desired end result, as long as the desired properties are not seriously affected, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). MPEP 2144.05 II.B.

Furthermore, in regard to the claimed amounts of stabilizer, metal deactivator and propene-ethene block copolymer, "[g]enerally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical." MPEP 2144.05 II.A.

In regard to claim 2, Roeber et al. teach that the tube comprises a bonding layer that joins the inner and outer layers (see, for example, Arrangement 4, where Layer II is bonded to Layer IV via a Layer III).

In regard to claim 3, the inner layer is adhesion-modified in the instances taught by Roeber et al. where the polyolefin layer comprises coupling agents (col. 5, lines 7-15).

In regard to claim 4, the inner layer comprises two sub-layers, for example, in the instance where the layers III and IV are of the same composition (see, for example, col. 2, lines 12-13) and are in contact with each other (see, for example, Arrangements 5-8).

In regard to claim 11, while Roeber et al., Kawase et al. and Ebner et al. fail to explicitly teach that the thickness of the inner layer is at least 0.3 mm, Roeber et al. teach examples where pipes having an external diameter of 8 mm and a total wall thickness of 1 mm (col. 9, lines 36-38). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have varied the thickness of the inner layer of the tube taught by Roeber et al. and Kawase et al. depending on the size of the tube required for the particular desired intended purpose of the tube.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roeber et al. (USPN 5,858,492) in view of Kawase et al. (USPN 4,737,536) and in further view of Ebner et al. (USPN 6,433,087) and in further view of Jacoby et al. (USPN 5,310,584).

Roeber et al., Kawase et al. and Ebner et al. teach the line as discussed above in regard to claim 1.

Roeber et al., Kawase et al. and Ebner et al. fail to explicitly teach that the stabilizer is a sterically hindered phenol or a sulfur compound.

Jacoby et al., however, disclose a polypropylene composition for plastic articles that is stabilized with a stabilizer composition that comprises a sterically hindered phenol (a "hindered phenol"), where the stabilizer composition is present in an amount of 0.18 wt. % (col. 13, lines 30-43). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a stabilizer comprising a hindered phenol as the stabilizer of the inner layer of the line taught by Roeber et al., Kawase et al. and Ebner et al. since a stabilizer comprising a hindered phenol is a well known stabilizer for polypropylene compositions for plastic articles as taught by Jacoby et al., and to have used the stabilizer in an amount of 0.18 wt. % (an amount that is greater than the claimed minimum of 0.02 wt. %) since an amount of 0.18 wt. % is a well known relative amount of stabilizer to use in a polypropylene composition for plastic articles as taught by Jacoby et al.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roeber et al. (USPN 5,858,492) in view of Kawase et al. (USPN 4,737,536) and in further view of Ebner et al. (USPN 6,433,087) and in further view of Dupuy et al. (USPN 7,238,738).

Roeber et al., Kawase et al. and Ebner et al. teach the line as discussed above in regard to claim 1.

Roeber et al., Kawase et al. and Ebner et al. fail to explicitly teach that the polypropylene composition comprises from 0.1 to 50 % by weight of a nanosize filler.

Dupuy et al. teaches a thermoplastic material (such as polypropylene, col. 2, line 48) that has high barrier property due to the inclusion of a nanosize filler in the thermoplastic material (col. 1, lines 7-13). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included a nanosize filler in typical filler amounts (such as less than 50% by weight) in the polypropylene composition of the line taught by Roeber et al., Kawase et al. and Ebner et al. in order to improve the barrier property of the line since inclusion of a nanosize filler in a thermoplastic composition such as polypropylene improves the barrier property of the composition as taught by Dupuy et al.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roeber et al. (USPN 5,858,492) in view of Kawase et al. (USPN 4,737,536) and in further view of Ebner et al. (USPN 6,433,087) and in further view of Strebel et al. (USPN 7,375,162).

Roeber et al., Kawase et al. and Ebner et al. teach the line as discussed above in regard to claim 1.

Roeber et al., Kawase et al. and Ebner et al. fail to explicitly teach that the polypropylene of the inner layer has a melt flow rate of from 0.1 to 3 g/10 min.

Strebel et al., however, disclose a composition comprising a propylene-ethylene block copolymer (col. 3, lines 27-37) having a melt flow rate of from 0.1 to 30 g/10 min (col. 9, line

66-col. 10, line 14) for hoses, tubing and automotive applications (col. 1, lines 33-36 and col. 5, lines 4-8). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the propylene-ethylene copolymer having a melt flow rate of from 0.1 to 30 g/10 min of Strebel et al. as the copolyolefin of of the line taught by Roeber et al., Kawase et al. and Ebner et al. since propylene-ethylene copolymer having a melt flow rate of 0.1 to 30 g/10 min is a suitable material for use for hoses, tubing and automotive applications as taught by Strebel et al.

8. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roeber et al. (USPN 5,858,492) in view of Kawase et al. (USPN 4,737,536) and in further view of Ebner et al. (USPN 6,433,087) and in further view of Iwata et al. (USPN 7,232,597).

Roeber et al., Kawase et al. and Ebner et al. teach the line as discussed above in regard to claim 1.

Roeber et al., Kawase et al. and Ebner et al. fail to explicitly teach that the line is corrugated in subsections or in its entirety, and that the line is configured as a corrugated pipe having a smooth inner layer.

Iwata et al., however, disclose a corrugated tube (col. 1, lines 5-10) that has high mechanical strength, high flexibility and a high flexural resistance (col. 1, lines 33-36 and col. 8, lines 23-27) and that comprises a flat (smooth) inner layer (col. 1, lines 37-41 and col. 2, lines 45-54). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have corrugated the tube taught by Roeber et al., Kawase et al. and Ebner et al. in order to improve the mechanical strength, flexibility and flexural resistance of the tube as

taught by Iwata et al. and to have added a flat (smooth) inner layer to the tube since it is well known to add a flat (smooth) inner layer to a corrugated tube in order to render the inner surface of the corrugated tube flat (smooth) as taught by Iwata et al.

Response to Arguments

9. Applicant's arguments in the Amendment filed June 22, 2009 in regard to the 35 U.S.C. 103 rejections of the claims have been fully considered but are not persuasive.

The updated rejections of record addess Applicant's amendments in the claims. Roeber et al. teach that PA-6,12 is a suitable material for the polyamide (col. 2, lines 30-30-42).

Applicant argues on page 7 of the Amdt. that none of the references disclose using a combination of heat stabilizer and metal deactivator in a polypropylene composition, but Ebner et al. disclose a polypropylene tube that comprises a heat stabilizer and a metal deactivator, which are both characterized by Ebner et al. as "the usual additives" for polypropylene molding compositions of polypropylene tubes (col. 4, lines 15-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have included a metal deactivator in the polypropylene composition of the line taught by Roeber et al. and Kawase et al. since metal deactivator is a typical additive to polypropylene molding compositions of polypropylene tubes as taught by Ebner et al.

Applicant appears to argue that there is no motivation to combine Roeber et al. and Ebner et al. because "the structures undergo different stresses", but both Roeber et al. and Ebner et al. teach polylpropylene compositions for tubes/pipes. Ebner et al. disclose a polypropylene tube that comprises a heat stabilizer and a metal deactivator, which are both characterized by Ebner et

al. as "the usual additives" for polypropylene molding compositions of polypropylene tubes (col. 4, lines 15-25). Furthermore, the argument that "the structures undergo different stresses" is directed to the intended uses of the tubes/pipes as stated by the respective patentees: the intended use of an article generally as stated in a patent does not limit the article to solely that use. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have looked to Ebner et al. for a teaching of a metal deactivator for use along with the stabilizer of Roeber et al. since Ebner et al. characterize heat stabilizers and metal deactivators as "the usual additives" for polypropylene molding compositions of polypropylene tubes (col. 4, lines 15-25).

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is (571) 272-1488. The examiner can normally be reached on Monday-Thursday from 9:00am to 7:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye, can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Walter B Aughenbaugh /

Examiner, Art Unit 1794

9/17/09

/Rena L. Dye/
Supervisory Patent Examiner, Art Unit 1794